IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: PIIRAINEN	Confirmation No.: 6720
Application No.: 09,355,623	
Filed: October 5, 1999	Art Unit: 2618
For: TRANSMISSION METHOD IN A RADIO SYSTEM ADJUSTING TRANSMISSION MOMENTS	Examiner: TRAN, Tuan A.

REPLY BRIEF

MS APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Dear Sir:

As required under 37 C.F.R. § 41.41(a), this brief is timely filed within two months of the Examiner's Answer mailed on September 17, 2009, thus making the due date November 17, 2009. A Request for Oral Hearing is **not** being concurrently filed with this Reply Brief.

The Director is further authorized to charge any additional fees that may be due or credit any overpayment to Deposit Account No. **03-3975** from which the undersigned is authorized to draw.

Appellant does not disagree with sections (1) – (8) of the Examiner's Answer. The purpose of this Reply Brief is to respond to what Appellant believes are continued mischaracterizations of the applied art, particularly Kay et al., and the Examiner's inconsistencies relating to the interpretation of the art with respect to the invention recited at least in independent claims 1, 17 and 34, as found in Sections (9) and (10) of the Examiner's Answer. The arguments presented in Appellant's Appeal Brief are incorporated and expanded herein.

In these sections of the Answer, the Examiner continues to argue on behalf of the deficiencies of Kay et al. and Bjork et al., but now at least partly changes the rejection by offering GB 2 308 041A to Motorola Ltd. as disclosing the use of multiple RF heads in a pico-cell environment. Whether or not this tertiary reference discloses that for which the Examiner

alleges, Appellants submit that the deficiencies of Kay et al. with respect to the claims on appeal warrant reversal of the rejections by the Honorable Board and passage of the application to issue.

I. Further Clarification of the Deficiencies of Kay et al. (US 5,357,513)

With respect to the rejection of claims 1-11, 13-15, 16-27 and 29-34 under 35 U.S.C. 103(a), as allegedly being unpatentable over Kay et al. (5,357,513), the claims on appeal require that two stations transmit at the same frequency and during the same time slot, with one station transmitting at a time offset with respect to the other station. The predicate understanding (made clear from a reading of Appellants' disclosure) for this situation to occur is that interference occurs between the two stations because of simultaneous transmissions, one of which is subsequently time-shifted in the time slot. In aspects of an embodiment, unique coding is employed, resulting in different impulse responses for the two signals which is used to distinguish between the two signals.

Since Kay divides a time slot into sub-slots, to teach or suggest the invention recited in Appellants' claims on Appeal, Kay must teach transmission of at least two stations, at the frequency and in the same sub-slot, i.e., Kay must teach ***simultaneous transmissions*** within one fundamental (or smallest allocable) resource block of the channel, which it does not. In the claimed invention, the fundamental resource block is a frequency and time slot pair. When interfering stations are present, there is a possible (and likely) condition in which two stations can transmit at the same frequency and at the same slot timing, resulting in interference that Appellants' claimed invention overcomes.

In stark contrast, in Kay, the fundamental resource block is a frequency and time sub-slot pair. Kay is completely silent on providing any teaching or suggestion of ***simultaneous transmissions by two stations, at the same frequency and sub-slot***, slightly offset in time. In fact, because the minimum offset available in Kay is a sub-slot, ***there is no simultaneous transmission by or to two different stations that needs to be corrected in the first place***. This observation is submitted as being particularly relevant due to the fact that Kay is ***not*** directed to a type of base station having multiple RF heads, as might be used in an indoor or pico-cell communications system, for example. In fact, as admitted by the Examiner, Kay is completely silent of any mention of multiple RF heads that cause interference in the base station.

The Examiner erroneously relies upon Kay FIG. 16 as disclosing various aspects of Appellants' claimed invention. FIG. 16 is a variation on the frequency hopping and complement of reverse control sub-slots, such as that of FIG. 14, and which shows the format of each of these sub-slots. Note that the duration of each portion of the sub-slot is shown in FIG. 14 as a function of bit length, and that each of the sub-slots shown in FIG. 11 illustrates a reverse control channel slot comprising four sub-slots, which encompasses 40 symbols or 80 bits. In each slot (such as the slot shown in FIG. 11), there are four sub-slots. Three of the subslots are referred to as Reverse ALOHA (RA), because this channel uses a contention protocol for access. One of the four sub-slots is referred to as a Reverse Response (RR) sub-slot; the RR sub-slots do not use contention. (See, e.g., Kay at col. 12, lines: 43-56).

The primary use of the RA sub-slot is the reverse allocate request message. The reverse de-allocate request is used for back up only in the event that the de-allocation message (which is part of the reverse traffic channel) is not acknowledged by the cell site. Connect and Release are call processing steps and, preferably do not imply that any traffic channels are dedicated (on Connect) or freed (on Release). (See Kay at col. 13, lines: 23-30).

The Examiner further and improperly relies upon Kay FIGS. 29-30 and col. 11, line 28 to col. 13, lines: 30-51 as teaching that a first subscriber terminal is commanded to send to the at least one base station a first signal (RR) using a determined timeslot 1 and a determined carrier frequency 7, with reference to Kay FIG. 16 and col. 13, lines 30-51.

What FIG. 29 actually teaches is a time set command and time set acknowledgment exchange; while FIG. 30 illustrates a different time set command and time set acknowledgment exchange. As described at col. 18, lines 3-16, a timing set command is used to adjust the mobile's transmit timing. FIGS. 29 and 30 show a message exchange for setting timing under two different circumstances. In the case of FIG. 29, the time set command is sent over the FT-FACCH, in the presence of forward traffic to the mobile. FIG. 30 is applicable in the event there is no forward traffic to the mobile so that the command is sent over the FC. In addition to timing messages, the base station may send an idle poll to identify the presence of mobiles which have not communicated with the base station within some specified time window. The status poll then is transmitted on the FC and the acknowledgment is returned on the RR.

The portion of Kay erroneously alleged by the Examiner as describing FIG. 16, i.e., col. 13, lines 30-51, actually only describes the message types available in the RR sub-slot. In any case, Kay FIG. 16 (or any other portion of Kay) does not teach or suggest a base station receiving first and second signals at different moments within a timeslot, and does not teach or suggest a second subscriber terminal sending a second signal using the timeslot and frequency used by the first subscriber terminal, as variously recited in the claims on appeal.

Further, the Examiner's stated motivation on page 4 of the Answer to modify the teachings of Kay is submitted as being the result of impermissible hindsight analysis, using Appellants' disclosure against them, i.e., to add multiple RF heads "for the advantage of enhancing signal quality as well as extending coverage of the base station to areas (e.g. pico-cellular environment) where signals are degraded due to terrain or obstacles such [sic] mountains, trees, buildings or walls…[f]urther, due to the mobility of subscriber terminals U (see fig. 1), transmissions including access bursts being received in the base station via different RF heads." Appellants submit that this motivation is completely missing from Kay, and is only present in Appellants' application with respect to the claims on Appeal.

II. Conclusion

Entry of this Reply Brief by the Examiner and reversal of the rejections by the Honorable Board and/or allowance by the Examiner are respectfully requested.

Due Date: November 17, 2009

Respectfully submitted,

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